## REMARKS

The above amendments cancel the currently pending claims in this application and substitute Claims 65 through 81 in place thereof. Applicant will address the art and rejections cited in the previous office action in view of these new claims.

**Rejection under 35 U.S.C. 101 with respect to non-statutory subject matter.**

Claim 65, and the claims dependent therefrom are directed to a computer-implemented method for storing, displaying and manipulating experimental data resulting from the measurements of real world samples. Since the claims are tied to specific hardware and transform data representing real world quantities, Applicant submits that these claims are directed to patentable subject matter.

**Rejection of claims under 35 U.S.C. 103 as being unpatentable over Warrington et al. (P/N 6,884,578). in view of Balaban et al. (6,185,561), hereafter Balaban'561; as evidenced by Byrd et al. (US P/N 5,826,260) and (in the case of some dependent claims) further in view of Balaban et al. (US A/N 2003/0028501), hereafter Balaban'501; and Schadt et al. (US P/N 7,035,739).**

The Examiner maintains that the combination of Warrington , Balaban'561, and Byrd teach the manipulation of data to facilitate identification, trends, correlation, or other useful relationships among the data. The Examiner admits that Warrington does not explicitly teach calculating a pseudo-data vector that may be used in subsequent data matrix reordering

The Examiner attempts to overcome this lack of teaching by stating that Warrington teaches a relational database and it is an inherent property of a relational database that rows or column can be sorted and based on varying criteria or rules created by the designer. First, the fact that a reference can be modified to arrive at the claimed invention is not sufficient to sustain a rejection for obviousness absent some motivation for making the modification unless the number of possible choices is sufficiently small that someone of ordinary skill could explore all of them in a reasonable period of time. The number of criteria for data

matrix reordering is clearly too great to allow someone to explore all criteria without some further guidance and motivation. Hence, the Examiner must provide some motivation for making the particular choice of criteria required by the current invention.

Second, it should be noted that the result of a query on a relational database is a new table having a set of the data records in which each record includes elements selected from one or more of tables in the relational database. The query specifies which elements are selected and the criteria for selecting records for inclusion in the hit list. A re-ordering of the hit list table does not cause a reordering of the underlying tables. In fact, since a relational database is typically a plurality of tables that are operated on by the query engine to provide a new single table that includes elements selected from one or more of the underlying tables, it is not clear which of the underlying tables would be re-ordered and on what basis.

The Examiner then points to Balaban'561 (column 3, lines 5-11 and column 5, lines 54-56) as teaching extracting rows based on a query that extracts all columns with a value greater than a predetermined value for some entry in the column. The Examiner maintains that this results in a reordering of the data. As noted above, the result of this query on a relational database is a new table having a set of the data records in which each record includes elements selected from one or more of the tables in the relational database. The query specifies which elements are selected and the criteria for selecting records for inclusion in the hit list. This query does not result in the re-ordering of the original database.

The Examiner also looks to Byrd (Abstract and claims 12, 14, and 28) as teaching querying a database, i.e., a document collection, to produce an ordered listing of documents based on the query. The resultant table also ranks the selected documents by the various individual query elements and allows the user to select one to re-order the hit list. As noted above, the result of a query on a database is a sub-set of the elements of the database. Hence, even if one re-orders the resulting table, the database itself is not re-ordered. The Examiner has not pointed to any teaching in Byrd that the underlying database is re-ordered.

Furthermore, Claim 65 explicitly requires that the reordering of the data matrix be based on a measure of similarity between said pseudo-data vector and values of said data matrix. The cited references do not teach a query based on such a similarity measure.

Hence, Applicant submits that Claim 65 and the claims dependent therefrom are not obvious in view of the cited art.

Claim 66 depends from claim 65 and additionally requires that the pseudo-data vector be calculated by assigning numerical data values to a selected portion of the sample descriptive values. The Examiner points to Figs. 4A and 9A-9F and paragraphs [0045], and [0071] of Balaban'501 as teaching that a database may include annotative (descriptive) data, and that the annotations may be user-defined. The Examiner suggests that the possibility of user-definition for the annotations satisfies Applicant's definition of a pseudo-vector in the specification of the current invention. Even if this broad reading of pseudo-vector were taken, Applicant submits that the cited figures and passage could at most be taken as teaching that a database may include pseudo-vector data. They do not teach the **calculation** of a pseudo-data vector. Moreover, Applicant finds no teaching in Balaban'501 of the assignment of numerical data values to sample descriptive values. At most. Figure 9D paragraph [0073] of Balaban'501 illustrates the possibility of updating selected descriptive values with other descriptive values. Hence, there are additional grounds for allowing claim 66 and the claims dependent therefrom.

Claim 74 depends from claim 65 and additionally requires that said measure of similarity comprises calculating a distance value between the pseudo-data vector and a vector generated from a select set of said measured values. Claim 75 depends from claim 74 and additionally requires that said distance value be determined by calculating a squared Euclidean distance between said two vectors. The Examiner maintains that measures of similarity based on distance values including a squared Euclidean distance are known measures of similarity, as evidenced by Schadt, and hence, it would be obvious to use these measures in data re-ordering.

Schadt teaches a clustering algorithm. The fact that certain measures of distance are known in clustering theory does not make those measures obvious as criteria for ordering records of a database. Hence, Applicant submits that there are additional grounds for allowing claims 74 and 75.

Respectfully Submitted,

Calvin B. Ward
Registration No. 30,896
Date: 1/29/2010

Agilent Technologies, Inc.
Legal Department, M/S Dl429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599
Telephone (925) 855-0413
Telefax (925) 401-1731